	Application No.	Applicant(s)
Notice of Allowability	09/849,808	SHAN, JERRY Z.
	Examiner	Art Unit	
	Scott L. Jarrett	3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *8/9/2005*.

2. ☒ The allowed claim(s) is/are *1-2,4,6-7,9-14 and 16-19*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None of the:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

    Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)

6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

TARIQ R. HAFIZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes

and/or additions be unacceptable to applicant, an amendment may be filed as provided

by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be

submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview

with Mr. Terry McHugh (Reg. No. 33,261) on October 26, 2005.

Amendments to the Title:

System and Method for Generating Conversion-Related Estimates Utilizing

Adaptive Sample Size.

Amendments to the Claims:

1. (currently amended) A computerized method of processing test data that is relevant to specific behavior of visitors of at least one network accessible site comprising the steps of:

    receiving pre-test information related to determining an estimation of anticipated behavior of said visitors to said at least one network accessible site;

    monitoring actual behavior of said visitors upon accessing said at least one network accessible site;

    employing said pre-test information and a Bayesian estimation approach to [[using]] said monitoring of said actual behavior so as to provide updated estimations of subsequent visitor behavior, said behavior being related to whether said visitors are converted while accessing said at least one network accessible site, said pre-test information and said updated estimations being related to determination of conversion rates;

    determining a required test sample size for said monitoring of said actual behavior in order to provide said updated estimations of subsequent visitor behavior, including adaptively adjusting said determination of said required test sample size on a basis of achieving a target confidence level regarding said updated estimations; and

    determining a post-test estimation of said subsequent visitor behavior, including selecting between using a systematic sampling approach and using a negative binomial sampling approach, said negative binomial sampling approach being selected in response to unavailability of said required test sample size for said monitoring;

    wherein an automatic process is defined by integration of said steps of receiving, monitoring and employing with said steps of determining a required test sample size and determining said post-test estimation, said post-test estimation being configured to provide a basis for determining interactions during subsequent visits to said at least one network accessible site.

14. (currently amended) A computer-usable medium containing computer-executable code for processing test data that is relevant to specific behavior of visitors of at least one network accessible site comprising:

    a first module component for determining ~~configured to determine~~ an initial conversion-related estimate on a basis of pre-testing information;

    a second module component for generating ~~configured to generate~~ updates of said conversion-related estimate in response to monitored behavior of said visitors of said at least one network accessible site, thereby enabling operations at said at least one network accessible site to be determined on a basis of said conversion-related estimate;

    a third module component for dynamically adjusting ~~configured to dynamically adjust~~ a measure of a required test sample size of said visitors while maintaining a

target statistical confidence level, said third module component applying systematic sampling; and

a fourth module component <u>for utilizing</u> ~~configured to utilize~~ negative binomial sampling to generate measures of said test sample size for occurrences in which said required test sample size of said third module component is unsatisfied.

18. (currently amended) The computer-readable medium of claim 14 wherein said second module component <u>generates</u> ~~is enabled to generate~~ said updates utilizing Bayesian estimation.

19. (currently amended) The computer-readable medium of claim 14 wherein said third module component <u>utilizes</u> ~~is enabled to utilize~~ negative binomial sampling in determining said measure of said required test sample size.

REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance.

The present invention is directed to a computerized method for processing test data related to the online visitor conversion behavior wherein online visitor anticipated behavior is estimated, actual online visitor behavior is monitored and updated based on sampled online visitor behavior data and a Bayesian estimation approach wherein a required sample size is adaptively determined in order to achieve a target confidence level.

The closet prior art Nakamura et al., U.S. Patent No. 6,591,248, teach a method and system for selecting an online advertisement wherein the advertisement selection process estimates the click rate (conversion rate, number of users that click the ad banner – the click being the desired user response/act) based on user profile information (historical and current/real time) collected, monitored and analyzed by the system and then utilizes predictive modeling and probability distributions to achieve a maximized total conversion rate (click rate) for each advertisement (reaches a specified condition/target, maximizes an objective function; Abstract; Figures 1 and 2).

However Nakamura et al. fails to teach that the method includes determining a required sample size that is adaptively adjusted to achieve a target confidence level and selecting/switching between using a systematic sampling approach and a negative binomial sampling approach wherein the selection of the sampling method is based on

the systems ability to achieve the required sample size/confidence level as claimed in

independent claims 1, 10 and 14.

Any comments considered necessary by applicant must be submitted no later

than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on

Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Heckerman, et al., U.S. Patent No. 6,330,563, teach a system and method for automatically analyzing online visitor behavior data (logs) wherein the system generates a statistical model that fits the collected data (e.g. Bayesian Network, Bayes clustering) in order to predict such things as "what ads the person will click on give what other as he or she has seen."

- Martin et al., U.S. Patent No. 6,338,066, teach a system and method for collecting and analyzing past online visitor behavior for the purposes of predicting future online behavior wherein the system provides an estimated confidence level for the predicted visitor behavior. Martin et al. further teaches that the system utilizes a random sampling of online visitor behavior data for training of the system in order to get an estimate of the confidence level for the statistical model.

- Lee et al., U.S. Patent No. 6,892,238, teach a system and method for determining online visitor conversion rates based on past and current online visitor behavior. Lee et al. further teaches that conversion rates can be used to measure the effectiveness of marketing/advertising.

- Liu et al., U.S. Patent No. 6,839,680, teach a method and system for collecting and analyzing online visitor behavior.

- Blume et al., U.S. Patent No. 6,839,682, teach a system and method for the predictive modeling of online visitor behavior based on collected and current online visitor behavior.

- Muyres et al., U.S. Patent Publication No. 2001/0056405 teaches a system and method for tracking and profiling online visitors.

- Kupersmit, U.S. Patent Publication No. 2002/0016731, teaches a method and system for conducting scientifically valid surveys over the Internet wherein online visitors/respondents are selected using random and systematic sampling techniques.

- Smith et al., U.S. Patent Publication No. 2002/01288898, teach a system and method for conducting surveys via the Internet wherein users are selected based on their responses to screening questions and/or target participation criteria.

- Kraft et al., U.S. Patent Publication No. 2002/0147570, teach a system and method for monitoring randomly sampled/selected online visitors from a population of online visitors.

- Wilkinson et al., U.S. Patent Publication No. 2002/0174182, teach a method and system for monitoring online visitor behavior and dynamically updating user/system interactions to achieve a desired online visitor conversion behavior.

- Smith et al., U.S. Patent Publication No. 2003/0041050, teach a system and method for managing online marketing/advertising campaigns.

- Louviere et al., U.S. Patent Publication No. 2005/0159921, teach a method and system for monitoring and estimating/predicting online visitor behavior.

- DoubleClick, Inc. WO 00/08802, teaches a method and system for delivering and measuring user responses (conversions) to Internet advertisements (content). DoubleClick further teaches the utilization of both current and past visitor behavior.

- Accure Insight (1998) teaches a system and method for monitoring and analyzing online visitor behavior wherein the analysis is used to determine such things as the effectiveness of online advertising campaigns.

- Arad, Ami, Analyzing Optimizing & Justifying Dynamic Web Sites (1998) teaches a system and method for monitoring, analyzing and predicting online visitor behavior (web activity analysis).

- Weinberg, Sharon et al., Data Analysis for Behavioral Sciences Using SPSS (2002) teaches well-known methods and a system for estimating/analyzing user behavior including teaching the role of sampling in inferential statistics.

- Hague, Paul, Market Research Third Edition (2003) teaches a plurality of well known market research method (techniques, approaches) including sampling wherein Hague teaches determining sample sizes and their associated confidence levels.

- Carlin, Bradley et al., Bayes and Empirical Bayes Methods for Data Analysis (2000) teaches a plurality of well known techniques for utilizing a Bayesian approach to statistical data analysis and sampling including determining the confidence level for a binomial and negative binomial analysis based on the sample size.

- Novak, Thomas et al., Web Measurement Standards (1999) teaches a plurality of well known and widely used online user behavior metrics including but not limited to conversion rates.

- Sampling Statistics (Wikipedia.com) teaches the definition of statistical sampling wherein the process of statistical sampling comprises five well known and widely used steps: definition of the population of concern, specification of the sample events/frames to be measured, specification of the sampling method (e.g. systematic, random and sampling size determination), sampling and data collection and sampling process review.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott L. Jarrett whose telephone number is (571) 272-7033. The examiner can normally be reached on Monday-Friday, 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hafiz Tariq can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SJ
10/28/2005

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